

IAP20 Rec'd PCT/PTO 10 APR 2006

KN/be 030878WO

12 July 2005

Method for the production of a sheet metal plate, in particular of steel, for the manufacture of motor vehicle body components

The invention relates to a method for the manufacture of a sheet metal plate, in particular of steel, for the production of motor vehicle body components, with at least one reinforcement zone.

Sheet metal plates of this kind are known. Motor vehicle body components are cut out from them, such as the inside panels of doors or bonnets and hatchbacks. In order on the one hand to satisfy the requirements for the lowest possible weight and, on the other, for sufficient strength at critical points, such as the connection points for hinges, the principle is known of welding shaped reinforcing sheets with non-linear seam runs into cut-outs in the sheet metal plates (DE 195 24 235 A1). The production of such sheet metal plates with local reinforcements is elaborate and leads to not inconsiderable amounts of scrap.

In addition to this, the principle is known (WO 00/00320) of welding together sheet metal plates made of individual sections of differing thicknesses with straight section edges. Such a process is elaborate, especially if the

purpose is only to form relatively small areas of reinforcement. In such cases, an individual section must be produced for each differently-dimensioned zone.

The invention is based on the object of developing a production process which is simple and can be carried out without scrap for a sheet metal plate for motor vehicle body parts, which satisfies the requirements for lightweight construction in conjunction with adequate strength in areas subject to high mechanical stress.

This object is achieved by a production process of the type referred to in the preamble by the following process steps:

- a) In a continuous production process, a sheet metal strip is produced with strips of differing thickness and/or quality running parallel to the longitudinal direction of the sheet strip.
- b) Individual sheet metal sections with straight cut edges are cut to length from the sheet metal strip.
- c) A first sheet metal section of this sheet strip is joined to a second sheet metal section, with a join line running straight and transversely to the longitudinal direction of the strips of the first sheet metal section, in such a way that the strips with greater thickness and/or higher quality form the local reinforcement zones.

With the invention the advantages of the continuously produced striated strip are exploited, in order to obtain

one or more reinforced zones at a specific point of the sheet metal plate or at several specific points of the sheet metal plate. In this situation, the striated sheet is only used at the place at which a reinforced zone is desired. In the remaining area a simple sheet can be used.